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KLINIKINIAI ATVEJAI

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KLINIKINIAI ATVEJAI

FAMILIAL JUVENILE HYPERURICEMIC NEPHROPATHY

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Introduction. Uromodulin (Tamm-Horsfall Protein) is a protein produced in the epithelial cells lining the thick ascending limb (TAL) of Henle's loop. Mutation in the Uromodulin gene UMOD causes the accumulation of mutant uromodulin in TAL cells endoplasmic reticulum, impairs urinary concentration, and potentially causes hyperuricemia. This rare autosomal dominant disorder is called Familial Juvenile Hyperuricemic Nephropathy and typically exhibits progressive kidney function decline, bland urinary sediment, minimal proteinuria, and mild hypertension. Additional symptoms may include gout, renal cysts, hyperuricemia, and urinary disturbances.

Case presentation. We present a case of a 51-year-old patient who presented with coughing with blood clots, sub-febrile fever, and declining kidney function. In laboratory findings, increasing creatinine and uric acid, hematuria, proteinuria, positive ANA, and p-ANCA were found. Ultrasonically, cysts in both kidneys were observed. Further investigation of a patient suspected a genetic origin of the disease. A next-generation sequencing study identified a likely pathogenic variant in the UMOD gene in a heterozygous genotype. A treatment plan included anti-hypertensive, and anti-uric acid therapy. Given the autosomal dominant nature of the UMOD gene variant identified for the patient, the descendants of a patient will undergo kidney function tests and will be consulted by geneticists to determine the inheritance status of the UMOD gene variant.

Conclusion. This report underscores the significance of genetic testing in elucidating the etiology of chronic kidney disease (CKD) and delineates appropriate therapeutic interventions for Familial Juvenile Hyperuricemic Nephropathy.

MIDDLE-AGED MALE WITH AN ACUTE VISION DISTURBANCE AND NEPHRITIC SYNDROME

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Introduction. Purtscher-like retinopathy is a rare retinal vasculopathy characterized by sudden vision loss and is associated with systemic diseases, including renal failure. We present a rare case of nephritic syndrome and neuroretinitis in a 46-year-old male with chronic hypertension, dyslipidemia, cryoglobulinemia, and multiple viral infections. These conditions interacted complexly, underscoring the need for comprehensive diagnostics.

Case Presentation. The patient presented with vision deterioration, following episodes of untreated hypertension, with no prior comorbidities. An ophthalmologic exam revealed bilateral optic disc swelling and macular exudation. Laboratory tests indicated anemia, impaired kidney function (GFR 19 ml/min/1.73m2), dyslipidemia, increased lipase, lactate dehydrogenase, hypoalbuminemia. Urine analysis showed leukocyturia, microhematuria, proteinuria. Serology was positive for CMV, HSV, EBV. Autoimmune markers were negative, however, cryoglobulinemia, normal complement C4, borderline C3c levels, highly positive kappa and lambda-free light chains (normal ratio) were found. Brain MRI indicated left optic neuritis. Extracranial cerebralultrasound demonstrated low-grade stenosis in the right MCA, suggestive of atherosclerotic arteriopathy. A kidney biopsy revealed focal membranoproliferative and sclerosing glomerulonephritis with isolated immune complexes/cryoglobulins, focal arterial endothelial proliferation as a possible component of thrombotic microangiopathy, cholesterol crystals in the tubules and foamy cells in the stroma. A complex systemic illness, including atheroembolic kidney disease, pancreatic dysfunction, cryoglobulinemia, viral infections caused Purtscher-like retinopathy. The treatment includes management of hypertension, dyslipidemia, renal dysfunction, steroid pulse therapy, therapeutic apheresis, and close monitoring by a multidisciplinary team.

Conclusion. This case highlights the rare but significant occurrence of neuroretinitis and nephritic syndrome, caused by the complex interplay of several factors.

YOUNG KIDNEY TRANSPLANT RECIPIENT WITH SEVERE HEADACHE

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Introduction. Post-transplant complications can significantly impact outcomes and can even cause potentially life threatening consequences.

Case presentation. We present the case of a 29-year-old female kidney transplant recipient with a complex medical history, including vesicoureteral reflux, chronic pyelonephritis, and two kidney transplants. The patient initially received a kidney from her mother at age 20, followed by a second cadaveric transplant at 27, due to chronic rejection of the first graft. Post-transplant, she developed recurrent infections, antibody-mediated rejection, and CMV viremia. At 29, she presented with severe headaches, and imaging revealed focal lesions in the cerebellum and cerebral cortex. The differential diagnosis included viral, bacterial, and fungal infections, leading to extensive testing, including cerebrospinal fluid (CSF) analysis and 18S PCR, which confirmed a CNS Aspergillus infection. Despite six months of voriconazole therapy, her condition persisted, and further biopsy revealed post-transplant lymphoproliferative disorder (PTLD), a rare but potentially life-threatening complication in transplant patients, particularly linked to EBV infection. Treatment involved reducing immunosuppression, discontinuing antifungal therapy, and initiating rituximab. Her condition improved with good kidney function (eGFR 65 mL/min), and follow-up imaging is scheduled post-rituximab therapy.

Conclusion. This case underscores the complexity of managing transplant recipients, where immunosuppression, recurrent infections, and malignancy are tightly interwoven challenges.

ATHEROEMBOLISM WITH KIDNEY AND OCULAR INVOLVEMENT: A CASE STUDY

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Background. Atheroembolic renal disease (AERD) is a multisystemic renovascular disease which can be associated with several organ involvement, including ophthalmic manifestations. In some cases, the ocular lesions may appear as Purtscher-like retinopathy (PLR). This might be the first sign of AERD.

Objectives. To review an unusual clinical case of atheroembolic renal disease in a patient with acute kidney injury and Purtscher-like retinopathy. Also to highlight the risk factors, diagnostic, treatment options and prognosis based on the publications of recent years.

Methods. For this case study permission was obtained from Vilnius University Hospital Santaros Klinikos to use patient‘s data. An analysis of complaints, medical and life history, objective examination, laboratory and imaging tests in a 44-year-old patient with renal and ocular atheroemboli was made. Moreover, a comparison with the latest publications was done.

Results. A 44-year-old male presented to hospital with severe visual impairment and high blood pressure. The opthalmologist diagnosed Purtscher-like retinopathy. Solid lipid exudates, massive optic disc edema in both eyes and subretinal haemorrhage in the left eye were seen. Laboratory tests showed elevated creatinine levels, hyperkalemia and cryoglobulinemia. Eventually, percutaneous kidney biopsy was performed. Histology revealed focal membranoproliferative glomerulonephritis with sporadic cryoglobulin‘s deposition, cholesterol crystals in the tubules and foamy cells in the stroma. The kidney pathology was assessed as atheroembolic renal diseease. The patient was treated with high-dose steroids and plasmapheresis.

Conclusions. Atheroembolic renal disease should be considered as a differential diagnosis in hypertensive patients who present with progressive kidney failure and impaired vision of unknown etiology.

APSINUODIJIMAS GRYBAIS

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Įvadas. Apsinuodjimas nuodinguoju nuosėdžiu (*Cortinarius orellanus)* yra nedažnas reiškinys. Literatūroje yra aprašyta keletas klinikinių atvejų apie apsinuodijimus nuodinguoju nuosėdžiu.

Orelaninas – grybo toksinas, kuris sukelia nefrotoksinį poveikį sukeldamas ūmią kanalėlių nekrozę, intersticinį nefritą, intersticiumo edemą. Pirmieji simptomai pasireiškia pykinimu, vėmimu, pilvo skausmu. Latentinis periodas tęsiasi nuo 2 iki 20 dienų. Vėliau stebimi ūmaus inkstų pažeidimo požymiai – progresuojanti oligoanurija, didėjantys inkstų funkcijos rodikliai kraujo serume. Dažniausiai specifinis gydymas netaikomas, taikomas tik simptominis gydymas – infuzoterapija, elektrolitų disbalanso korekcija, galimų komplikacijų gydymas (pvz. antihipertenzinis gydymas). Esant indikacijos, taikoma pakaitinė inkstų terapija.

Klinikinis atvejis. 37 metų vyras, kreipėsi į skubios pagalbos skyrių dėl juosmeninės srities skausmo. Laboratoriniuose tyrimuose stebima ūmi inkstų pažaida su pakaitinės inkstų terapijos poreikiu, vienkartiniame šlapimo tyrime gliukozurija, proteinurija. Patikslinus anamnezę, sužinota, jog pacientas prieš savaitę grybavo, suvalgė vieną nepažįstamą grybą, patikslinus pagal nuotraukas, nustatyta, jog tai nuodingasis nuosėdis. Po to skundėsi dideliu troškuliu, vartojo daug vandens, eigoje progresavo oligoanurija. Skirtas gydymas Penicilinu G, silimarinu, protonų pompos inhibitoriais, kilpiniais diuretikais, antihipertenzinis gydymas, pakaitinė inkstų terapija hemodializėmis. Eigoje paciento diurezė pagausėjo, tačiau išliko inkstų funkcijos nepakankamumas su hemodializių poreikiu. Pacientas išrašytas tęsti planines hemodializes ambulatorine tvarka per laikiną CVK, tikintis inkstų funkcijos pagerėjimo. Praėjus 2,5 mėnesio, išlieka inkstų pažaida, tęsiamos planinės hemodializės.

Išvados. Apsinuodijimas *Cortinarius orellanus* pavojingas dėl ilgo latentinio periodo ir vėlyvo simptomų pasireiškimo. Tai gali sąlygoti inkstų pažaidos sunkumą, kuris gali būti negrįžtamas.

NUO ŠLAPIMO ORGANŲ INFEKCIJOS IKI ERDHEIM-CHESTER LIGOS

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Įvadas. Erdheim-Chester liga – tai reta ne Langerhanso ląstelių histiocitozė, kurios aprašytų atvejų literatūroje yra mažiau nei 1000. Šiai ligai dažniausiai būdingas daugiažidininis pažeidimas ilguosiuose kauluose, su ar be ekstrakaulinių audinių įtraukimo. Patogenezėje esminį vaidmenį vaidina genų, lemiančių nekontroliuojamą mieloidinės eilės ląstelių proliferaciją, mutacija. Dažniausias jų – BRAF V600E genas. Ligos diagnostika atsiremia į klinikinių, histologinių ir radiologinių radinių visumą. Ligos gydymas priklauso nuo simptomų išraiškos – jei ligos eiga yra asimptominė, dažniausiai pasirenkama stebėjimo taktika. Esant organų pažaidai – gydymas paremtas taikinių terapija, orientuota į konkrečią geno mutaciją.

Atvejis. Į nefrologijos skyrių stacionarizuota 59 metų moteris su įtariama šlapimo organų infekcija (ŠOI). Pacientė skundžiasi apie savaitę laiko varginančiu febriliu karščiavimu su šalkrėčiu. Iš anamnezės žinoma, jog dėl pasikartojančių ŠOI pacientė ambulatoriškai tirta urologo, ginekologo, nefrologo, prieš 8 mėnesius atliktoje kompiuterinėje tomografijoje (KT) stebėta abipusė hidronefrozė, kuri buvo vertinta kaip sąlygota pararenalinių audinių (geldelės ir pieloureterinės srities) pakitimų, būdingų retroperitoninei fibrozei (urorenalinis tipas). Stacionare KT kontrolėje atlikta kairiojo inksto perinefrinio audinio biopsija, kurioje nustatytas lėtinis ksantogranuliominis minkštųjų audinių uždegimas. Molekuliniam ištyrimui medžiaga išsiųsta į Valstybinį patologijos centrą, kur buvo nustatyta BRAF geno 15-o egzono V600 kodono mutacija, būdinga ne Langerhanso histiocitozei bei tikėtinai Erdheim-Chester ligai. Diagnozės patvirtinimui ir gydymui pacientė nukreipta gydytojo hematologo konsultacijai.

Apibendrinimas. Erdheim-Chester liga yra labai reta retroperitoninės fibrozės priežastis, bet jis vistiek turėtų būti diferencinės diagnostikos dalis. Dėl itin mažo paplitimo ir riboto literatūros kiekio prognozuoti ligos eigą yra sunku, o ligos prognozė istoriškai yra prasta.

DIFFERENTIAL DIAGNOSIS OF ACUTE KIDNEY INJURY USING SCHEMATIC LEARNING

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University hospitals are places that provide the highest quality services and train the doctors of the future. Medical science is a dynamic and constantly changing discipline, encompassing both theoretical and practical knowledge. Today's challenge is the vast amount of information and its systematic presentation to facilitate better memorization. Visual materials can aid in the retention of information. In this article, we will review the etiology, pathogenesis, and differential diagnosis of acute kidney injury using clinical cases and prepared visual materials. We present three cases of acute kidney injury resulting from different causes. Acute kidney injury (AKI) is a clinical syndrome characterized by a sudden decline in or loss of kidney function. The etiology of AKI is classified into three general categories: prerenal, renal, and postrenal. A better understanding of those mechanisms may give clinicians and students a clearer idea of which patients may need more frequent screening as well as what the potential triggers in the individual patient may be. Diagrams are beneficial not only for students but also for professionals. Doctors and other healthcare providers can use diagrams to quickly and effectively convey information to patients or colleagues, as well as when preparing presentations or training sessions. Therefore, learning from diagrams is an essential part of both medical education and professional practice.

JAUNOJO MOKSLININKO TEZIŲ KONKURSAS

NEPHROGO: A MOBILE APP FOR EASIER CONTROL OF CHRONIC KIDNEY DISEASE

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Background. One in ten adults globally suffers from chronic kidney disease (CKD). Effective self-management interventions are essential to improving CKD control. Mobile applications offer a cost-effective, accessible, time-efficient tool to empower patients in managing their condition.

Aims. To develop a mobile application that helps CKD patients follow a kidney-friendly diet, track daily nutrient, electrolyte, and fluid intake, monitor health status, and perform peritoneal dialysis easily.

Materials and Methods. NephroGo was developed using KDIGO guidelines to create personalized nutrient-tracking algorithms, integrated into a unique food composition database designed specifically by our team. The app's backend is built on the Python-based Django framework, with cross-platform functionality on Android and iOS using Flutter technology. Currently available in Lithuanian, German, and English, NephroGo serves over 1000 users across Lithuania, Germany, Austria, Switzerland, and Norway. User feedback was evaluated with the Mobile Application Rating Scale (MARS).

Results. NephroGo offers four main features: a personalized nutrient counter, health status monitoring, peritoneal dialysis support, and a guidance section for patient education. The app allows direct data sharing between patients and healthcare providers, enhancing clinical decision-making and communication. NephroGo achieved a high MARS rating of 4.1 ± 0.7, with the highest score in functionality (4.3 ± 0.7). The app was most highly rated by peritoneal dialysis users (5.0 ± 0.0, $p = 0.009$) and those referred by their physicians (4.5 ± 0.7, $p = 0.039$).

Summary. NephroGo is a patient-centric mobile application that enhances CKD management through its unique food database, evidence-based design, multilingual support, and seamless data sharing with healthcare providers, highlighting its potential to improve self-care and clinical outcomes in CKD patients.

RENAL FIBROSIS PREVENTION WITH PERINATAL STEM CELLS: BIOMARKERS OF KIDNEY TISSUE DAMAGE

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Background and Aim. Acute kidney injury (AKI) is a potentially reversible process, but its episodes can lead to chronic kidney disease (CKD) – in about 15 % of patients (1, 2, 3, 4). There is currently no effective or timely treatment to stop the progression of the disease (5, 6). Human placenta-derived mesenchymal stromal cells (hpMSCs) are a promising new remedy in regenerative medicine and pharmacology. HpMSCs may be a promising source for cells therapy due to their extensive sources and low immunogenicity (7). Our aim was to compare evolution of histological biomarkers during AKI emergence and conversion towards CKD.

Methods. HpMSCs have been isolated using Good manufacturing practice (GMP) grade materials, cultivated for three weeks and characterized by yield, viability, flow cytometry and potency in vitro.

Rats (8–12 weeks, both genders) underwent preclinical ischaemia-reperfusion injury (IRI). Animals both kidney roots were clamped with atraumatic

microvascular clamps. The clamps were removed after 60 minutes of occlusion. Four experimental groups. Two groups of four were treated. After removal of the clamps, the (i) IRI hpMSC treated group (cells group) received 3×10^5 hpMSCs in the corticomedullary region of each kidney. (ii) IRI PBS control group (PBS group) received phosphate buffer solution (PBS). (iii) Untreated group with only induced IRI (IRI group). And (iv) normal healthy control group without IRI. Survival analysis was carried out till day 28. Blood and kidney tissue samples collected on these points: days 0, 3, 7, and 21 to 28. At least 3 rats per end point (a total of 43 rats). Creatinine was analysed in the blood.

Kidney histology. Acute tubular necrosis (ATN), dilatation, casts, loss of brush border (LBB), tubulitis, leucostasis, interstitial fibrosis and tubular atrophy (IFTA) were scored in 10 randomly selected, non-overlapping fields of each section using the following grading system: 1, 0–35 %; 2, 36–70 %; and 3, 71–100 %. The degree of renal injury was assessed by calculating the percentage of affected tubules – renal injury score (RIS).

Results. HpMSCs had a consistent yield, viability, MSC expression markers and suppressed proliferation of T cells in a dose-dependent fashion.

Rats survived 100 percent in cells group while only 68 percent in PBS group and 65 percent in IRI group, at the end of the study.

hpMSCs significantly improved kidney function by decreasing creatinine level in serum and on days 3 and 7 compared to the surviving rats in comparison to the death-censored control groups. Serum creatinine level was 2 times lower in cells group than control group on day 3 and 3.5 times lower than IRI – PBS group on day 7.

The histological findings indicated that hpMSCs mitigated the injury to renal morphology in both the early and late phases. The cells group exhibited significantly lower levels of ATN on day 3 compared to the IRI ($p = 0.047$) and PBS ($p = 0.028$) groups. Comparatively, the cells group had a distinct tendency toward a smaller ATN region, casts formation, LBB, and tubular dilatation, with ATN devoid of focal coagulative necrosis visible as early as day 7. On day 21, only modest acute tubular damage and no interstitial fibrosis or tubular shrinkage were observed in the cells group compared with day 28 in the IRI and PBS groups, where active tubular damage remained with localized atrophy. On days 21–28, significant RIS differences were observed between cells group and both IRI ($p < 0.05$) and PBS ($p < 0.05$) groups. RIS, tubular dilatation, LBB, cast formation, and IFTA were significantly lower in the cells group than in the IRI and PBS groups on days 21–28.

On day 3 post-ischaemia, serum creatinine correlated strongly with LBB, casts formation, tubular dilation and leucostasis in the IRI group, and with dilatation and ATN in the cells group. In the PBS group, serum creatinine correlated

strongly with LBB, casts formation, tubular dilatation, and ATN on day 7 after ischaemia. In the cell group, normal blood creatinine levels correlated strongly with minimal IFTA in the IRI group at day 28 after ischaemia. On day 28, IFTA was strongly correlated with LBB, casts formation, tubular dilatation in the IRI group and with tubulitis in the PBS group.

Serum creatinine normalized on day 28, but structural kidney damage persisted only in controls. Chronicity is expected to continue increasing with time.

Conclusion. Perinatal stem cells have the potential to prevent acute kidney damage and consequential fibrosis cascade. The changes in histological biomarkers reveal that the chronicity of the disease is increasing over the time after AKI episode. The results of the histological study demonstrated that perinatal stem cells provided long-lasting protection against kidney injury. Tubular dilatation had a universal prognostic value for kidney function, whereas ATN had a limited prognostic value for kidney function. A superior 100 % survival rate of treated animal group exhibits the potential of characterised hpMSCs to be used in a larger scale preclinical tumorigenicity and toxicity studies and subsequent clinical studies.

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CORRELATION OF KIDNEY GRAFT FUNCTION WITH CHANGES IN T1 MAPPING ON 3 TESLA MAGNETIC RESONANCE IMAGING

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Background and Aim. This study investigates the ability of T1 mapping to detect microstructural changes in cadaveric kidneys during the early post-transplantation period using magnetic resonance imaging (MRI)(1). The aim is to compare the MRI characteristics of transplanted kidneys (kTx) with different creatinine clearance levels at 7–10 days post-transplantation against those of healthy kidneys.

Materials and Methods. With institutional ethics approval, we conducted a prospective study at the Hospital of the Lithuanian University of Health Sciences, Kaunas Clinics, involving 34 kidney transplant recipients and a control group of 30 healthy individuals. MRI scans were performed using a 3T Siemens Skyra scanner (Table 1). Image analysis was conducted by radiologists and a nephrologist using Parametric MRI v1.2.31-b software (Figure 1). Graft function was classified as immediate (IGF), slow (SGF), or delayed (DGF) based on the classification by Isaac E. Hall et al. (2). Clinical and laboratory data are presented in Table 2.

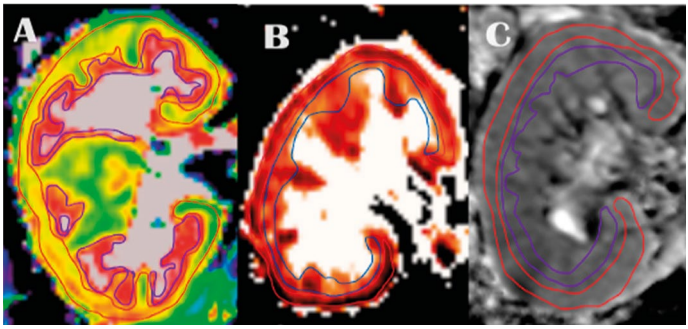

Figure 1. Segmentation of renal magnetic resonance imaging data. The cortex and medulla were identified on the T1-weighted reference image, and ROIs were manually delineated in the cortex (red) and medulla (blue) (A). T2-weighted image fused with the corresponding T2 map (B). ADC map (C). The interclass correlation coefficient between investigators (radiologist and nephrologist) was 0.96, with measurements averaged across two observers.

Table 1. Imaging modalities and corresponding parameters

	T1 MAP
Sequence t.	GRE/separate
Orientation	Coronal
Res. control	Breath-hold
TR/TE (msec)	357.73/1.01
Voxel (mm^3)	2.0 × 2.0 × 8.0
FOV (mm^2)	500 × 500
Flip ang. (deg)	35
Slices	3
EPI fac.	-
Fat suppression	Off
Acceleration fac.	2 (GRAPPA)
Scan time (min)	0:45

(-) not applicable, GRE gradient echo sequences, EPI Echo planar imaging, GRAPPA Gene Realized Autocalibrating Partially Acquisitions

Table 2. Relationship of demographic and clinical data between healthy and transplanted patients' kidneys

	Healthy patients	**Transplanted patients**	**p**	**IGF1**	**SGF +DGF1**	**P[2]**
	n = 30	n = 34		n = 20	n = 14	
Gender male (%)	18 (60)	25 (73.5)	0.255	15 (75)	10 (71.4)	0.816
Age (years)	41.53 SD 43.00	44.97 SD 13.49	0.659	45.2 (15.22)	44.6 (11.09)	0.908
Duration of kidney replacement therapy (months)	n/a	18.50 IQR 42	n/a	13 IQR 46.75	28.50 IQR 37.75	0.148
Creatinine before MRI (µmol/L)	77.64 SD 12.64	255.15 SD 256.95	0.001	119.0 IQR 83.25	264.00 IQR 647.75	0.002
Hemoglobin before MRI (g/L)	138 SD 10.77	97.29 SD 12.57	<0.001	101.45 SD 11.83	91.36 SD 11.49	0.019
Hematocrit before MRI (%)	40.24 SD 3.56	28.94 SD 3.93	<0.001	30.31 SD 3.72	27 SD 3.47	0.007
SpO2 before MRI (%)	98 IQR 1	98 IQR 3	0.87	98 IQR 3	96.5 IQR 2.25	0.051
Systolic blood pressure before MRI (mmHg)	128 IQR 16	149 IQR 23	<0.001	148.30 SD 16.36	150.00 SD 14.65	0.758
Diastolic blood pressure before MRI (mmHg)	80 IQR 4.75	91.44 IQR 15	<0.001	90.15 SD 13.12	93.29 SD 11.03	0.47
Cold ischemic time of transplanted kidney (min)	n/a	800.73 SD 233.35	n/a	717.85 SD 193.68	919.14 SD 240.27	0.005

[1] Determination of IGF, SGF and DGF was performed using the following formula: the difference between serum creatinine (Scr) at 0 h and Scr on day 7 divided by Scr at 0 h. In those who did not require HD, SGF was defined as a creatinine reduction ratio less than 0.7 and IGF was

defined as a ratio greater than or equal to 0.7. DGF was defined by at least one HD session within 7 days of transplant. The collum with P shows the comparison between healthy and transplanted patients. The collum with P^2 shows the compression between transplanted patients according to graft function. Data is given as a number (%), mean (SD) or median (IQR).

Table 3. Comparisons of T_1 parameters in kTx and healthy patient groups

	Healthy patients	**Transplanted patients**	**p**	**IGF1**	**SG-F+DGF1**	**p**
	n = 30	n = 34		n = 20	n = 14	Healthy vs IGF / SGF +DGF
T1 map cortex	1526.70 SD 116	1569.95 SD 212.05	0.993	1619.95 SD 119.72	1498.52 SD 289.57	0.0084/0.6452
T1 map medulla	2068.27 SD 286.93	1710.50 SD 231.15	<0.0001	1767.35 SD 118.23	1629.28 SD 321.13	0.0001/<0.0001
T1 CMD[1]	541.57 SD 217.54	140.55 SD 67.74	<0.0001	147.40 SD 70.44	130.76 SD 64.97	<0.0001/<0.0001

[1] CMD – the corticomedullar differentiation. Data are presented as a mean with a standard deviation.

Results. No significant difference was observed in the T1 mapping values of the cortex between healthy individuals and the entire kTx group. However, the medulla and corticomedullary differentiation (CMD) values were significantly lower in the kTx group (Table 3). A statistically significant difference in mean T1 mapping values was found between the graft function groups ($F = 48.350$, $p < 0.001$). Post hoc analysis using the Tamhane test revealed significant pairwise differences between healthy and IGF kidneys in the T1 map cortex (1524.32 ± 111.19 ms vs. 1619.95 ± 119.72 ms, $p = 0.028$); detailed analysis is available in Table 3.

Conclusion. T1 cortex mapping in transplanted kidneys could be a biomarker for distinguishing between good and impaired early kidney graft function.

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FRAILTY SYNDROME IN DIALYSIS PATIENTS: ONE DIALYSIS CENTER STUDY

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Aim of the study. To analyze the rate of frailty syndrome among chronic hemodialysis (HD) patients (pts.) and it's association with outcomes.

Objectives:

1. To evaluate the rate of frailty in chronic HD pts.

2. To assess relation of frailty to hospitalisation and mortality in chronic HD pts.

Methods. A retrospective analysis of clinical data (evaluation of the Edmonton Frail Scale) was performed.

Results. In total, 60 HD pts. (70 % male and 30 % female) participated in our study. The mean age of pts. was 60.1 ± 13.6 years and the median duration of HD was 69 mo (52.5–90). Rate of frailty was 46.7 % (n = 28). Older age directly correlated with frailty ($p = 0.01$, $R = 0.305$). The hospitalization rate > 2 times per year directly correlated with the total score of the Edmonton Frail Scale – higher results were observed in comparison with non-hospitalized pts. (6 (5–9) vs 5 (3–6); $p = 0.037$). During follow-up period of 45 mo, 18 (30 %) patients died, more than a half of them (n = 10; 55.6 %) had frailty, but there was no significant correlation between frailty and mortality ($p > 0.05$).

Conclusions.

1. Rate of frailty prevalence was 46.7 % of patients: slight – 31.7 %, moderate – 8.3 % and severe – 6.7 %.

2. The significant direct correlation between higher total frailty score and higher hospitalisation rate was found ($p = 0.037$), but there was no association between frailty and mortality ($p = 0.534$).

NATIONWIDE KIDNEY BIOPSY DATA IN LITHUANIA 2013–2022

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Background. Percutaneous kidney biopsy remains a gold standard diagnostic tool in many kidney diseases, therefore kidney biopsy registry provides important epidemiological data. This research is a continuation of a previous review that analysed kidney biopsies in Lithuania from 1994 to 2012.

Objectives. The aim of this study was to assess the trends in the incidence and changes in kidney biopsy results over time in Lithuania.

Methods. All Lithuanian kidney biopsies were analysed in the National Center of Pathology. All the native and transplanted kidney biopsy data were reviewed from the period from 2013 to 2022.

Results. Between 2013 and 2022, a total of 4979 kidney biopsies were performed in Lithuania. 4640 of these were performed in adults, of which more than a half (55.8 %) were in men. Compared with the previous data, there has been found an increasing mean age (from 42,5 ± 18 years in 1994–2012 to 46,1 ± 17,9 years in 2013–2022). Transplanted kidney biopsies accounted for 44.5 % of all adult biopsies. In native kidney biopsies, the most commonly

detected pathology was IgA nephropathy (19.2 %), followed by crescentic pauci-immune GN (11.1 %), membranoproliferative GN (8.4 %), FSGS (6.4 %) and amyloidosis (6.1 %).

Conclusions. Compared with the data of Lithuanian kidney biopsies from 1994–2012, the most common histologically determined kidney pathology remained IgA nephropathy, but the number of crescentic glomerulonephritis increased. These findings are in line with biopsy registries from other European countries: IgA nephropathy remains the leading in younger people, while crescentic glomerulonephritis – in the elderly (> 65 years).

References

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